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AN OUTLINE OF THE COURSE IN GEOGRAPHY IN THE UNIVERSITY ELEMENTARY SCHOOL. IV

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GRADE 6

AFRICA (*Continued*)

The German colonies of Africa are compared with the French and English colonies. The more important facts which stand out from such a comparison are the following: The German possessions are widely separated. They lie in the tropical part of Africa. Acquisition of the Belgian Congo would knit these territories into an east-west belt of German possessions. By the treaty of 1912 Germany secured New Kamerun by permitting the French protectorate to be established in Morocco. German East Africa breaks the chain of British possessions from Cairo to the Cape. It is impossible to complete both the north-south line which the British cherish and the east-west belt which Germany desires. The evils of territorial aggrandizement are plainly evident in the international jealousy that arises in such a case as this.

Any questions that the discussion of French, English, and African colonies has aroused in the minds of the children concerning the other African colonies are given consideration before the close of the study of Africa. In conclusion there is discussion of any additional points regarding the comparative importance of South America and Africa that have been gained from the study of the colonial possessions.

AUSTRALIA

The map-reading of Australia serves as an individual test of the ability gained in this kind of geographic work in the study of South

America and Africa. Hence the map of Australia is read by each member of the class, and his interpretation is not compared in class with that of others, but discussed in a conference with the teacher. This gives an opportunity to remove for each individual any uncertainty about how to read maps.

Subjects are assigned to be worked out by individuals and presented to the rest of the class. Since our printed material about Australia is written in English (in contrast to South-American material in Spanish) and since the fundamental geographic problems of this continent do not differ in kind from those which the pupil has met in the study of other continents, this method of treatment occasions no serious difficulty. The way in which a pupil's material is collected, used, organized, and presented to the class is an excellent test of what the child has learned about the handling of material from his previous training. Effort is made to overcome the pupil's childish tendency to include in his collection Australian pictures "because they are pretty" when they have no particular bearing on the topics he is illustrating and when he has no clear idea of what they do illustrate. He must either discard the picture or make a clear explanation of why it is a valuable illustration. Praise is given for quality of organization and judgment in selection rather than for mere quantity of illustrative material.

Such treatment also affords an opportunity for practice in taking notes. After each child talks to the class opportunity is given for the writing of notes on the subject. If the talk has been clear and well organized, notes are easy to take. If not, the many questions asked show the one who has talked that he failed to make clear his main points.

Children design the covers for their books of collected materials in the drawing periods. They usually employ as a decorative unit an Australian animal, tree, flag, seal, or landscape. (Refer to "Course of Study in Drawing.")

Much information in the form of illustrated pamphlets is furnished by the "Australian Society of Chicago," the "Commonwealth Bureau of Census and Statistics, Melbourne," tourist bureaus in all large Australian cities, and railroad and steamship lines. Australian newspapers also may be easily obtained. The topics assigned include the following:

The Aborigines of Australia
Brief History of Australia
Government of Australia
Sheep Raising in Australia
The Cattle and Dairy Industry
Farming in Australia
Irrigation—the Closer Settlements Acts
Mining in Australia
Fruit Culture in Australia
The Railroads of Australia
Cities of Australia
Tasmania
New Zealand
A Comparison of Australia and Argentina with South Africa
The Coral Reef
Routes to Australia
Manufacturing in Australia
Plants of Australia
Animals of Australia
Lumbering in Australia
Australian Beauty Spots (National Parks, etc.)
Canberra, the New Australian Capital

Both teacher and children suggest the topics. Great freedom is permitted in the organization and presentation of reports. Special maps and graphs are made to accompany individual reports. Originality is encouraged. The pupils often use the projecting lantern to show small pictures to a class.

Map-tests similar to those described in the course on South America are given. At the close of the study the pupils invite as guests of the class someone who has been in Australia and who is willing to spend an hour or two in amplifying reports about Australia and in answering questions. Sometimes the teacher of English is invited to hear the Australian reports and to read to the class some Australian poems by native poets or some of Kipling's verses such as his "Hymn to the Native Born." Such visits serve to make very real the present-day life of the continent.

Standards of attainment.—Children should know as a result of the work of the sixth year the essentials of the place geography of the Southern Hemisphere. They should have a conception of the various phases of geography—the economic and commercial, the political, and the physiographic. They should begin to see the interrelation and interdependence of the various phases. They should have strengthened *right* habits in the use of books, maps, and other geographic material. The year's work should have increased their interests and widened their sympathies with fellow-races and nationalities. It should have encouraged, finally, a desire to be informed about what is taking place in the world.

Textbooks.—

Bowman, *South America*
Carpenter, *South America*
———, *Africa*
———, *Australia*
Brigham and McFarlane, *Essentials of Geography*, Second Book

Teachers' references.—

C. R. Enock, *The Republics of South and Central America*
Bryce, *South America*
Hale, *The South Americans*
Martin, *Through Five Republics of South America*
Mill, *The International Geography*

Much valuable reference material is to be found in *The Australian Commonwealth*, published by the Australian government, and in journals, especially the *National Geographic Magazine.*

Time requirement.—

80 lessons, 1 hour each:
  50 lessons, South America and preliminary work
  20 lessons, Africa
  10 lessons, Australia
  ½ of each hour, recitation
  ½ of each hour, supervised study

GRADE 7

General statement.—The course in geography in the seventh grade consists in part of a review for the purpose of summarizing and clinching the more important geographic principles. This involves gaining much new geographic knowledge as well as recalling and reorganizing many facts already learned. The course consists further of a study of the need of conserving our national resources, the principles of such conservation, and effective means of securing it.

The review.—The review takes the form of the solution of problems such as the explanation of the density and distribution of population in the United States. In developing the problem, maps are consulted first, and the reading-matter of the text and of supplementary material serves to corroborate conclusions made from map-study and to give additional information.

Since the scope of the review affords considerable choice of problems, the one here discussed is included, not as a rigid outline of subject-matter, but as an example of the kind of work done, the material used, and the type of development stressed. References below are to Brigham and McFarlane, *Essentials of Geography*, Second Book.

From a population map of the United States, page 49, the striking facts concerning the distribution of population are read. It is seen that the region east of the one hundredth meridian is, in general, more densely populated than the region west of it; that there is dense population in the West in scattered areas only; that population is densest in the northeast quarter. From a consideration of these facts questions are raised for class discussion such as, Why should the eastern half of the United States be more densely settled than the western half?

One reason is found from the maps on pages 104, 105, 122, 136, and 138. These maps show the important regions of production of corn, wheat, cotton, tobacco, and sugar in the United States. From these it is seen that agriculture is carried on in almost all the eastern half of the country, but only in scattered areas in the western half. Why is the agricultural area limited to the eastern part of the country and to scattered regions in the West? By comparison of product maps with relief, isothermal, and rainfall maps, topographic, temperature, and rainfall conditions of the producing regions are found. The amount of rainfall and its distribution relative to the growing season are seen to be important factors in limiting the agricultural regions. The reasons why agricultural regions, as a rule, support more people per square mile than regions too arid for agriculture are discussed. It is finally concluded that one reason for the population in the East being denser than that in the West is the greater amount of rainfall well distributed with reference to the growing season.

At this place children often raise the question, Why is there more rainfall in eastern United States than in western United States? Since the study of cyclonic storms, weather maps, and the causes of rainfall in the United States is a part of the science course of the seventh grade, the problem is set aside to be dealt with there. It serves, however, to motivate that work.

How does the production of minerals affect the distribution of population? From the maps on pages 82 and 168 and from reading it is seen that gold, silver, and copper are found largely in the West, and iron, oil, gas, and coal of good quality more largely in the East. The great influence of minerals in bringing population to the West is discussed. The rise and decline of mining communities dependent entirely upon exhaustible supplies of minerals are noted. The great importance of coal and iron in industrial development and in the support of a manufacturing population is emphasized.

How do transportation and power facilities affect the distribution of population? A review of the topography, drainage, and coast line brings out such contrasts and comparisons as the following: Much of the West consists of high mountains and plateaus cut by deep canyons. The highlands are less extensive and less formidable in the eastern half. There are more rivers in the East than in the West. The eastern rivers afford more navigable waterway mileage than do the western rivers. Many western rivers flow in deep canyons and so are less accessible than eastern rivers. Rivers of the Great Basin flow into interior lakes or sinks, and offer no highways to the ocean from the interior. The West has no lakes to compare with the Great Lakes of the East. The Atlantic coast line is irregular and affords many harbors. The Pacific coast line is relatively regular and furnishes few harbors. The railroad net of the East is dense, that of the West light. It is concluded that, on the whole, the East offers better transportation facilities than the West. Other things being equal, this tends to make population denser in the East than in the West.

How do manufacturing possibilities affect density of population? From map-study and reading it is found that the principal manufacturing section is the northeast quarter of the United States, and that factors influencing this concentration of manufacturing are nearness to raw material, command of power, and accessibility of market and labor supply. The reasons why population tends to be more dense in manufacturing regions are discussed and the fact is brought out that manufacturing and commercial population tends to concentrate in cities. From a study of the location of the more important cities the following generalizations are made:

1. Commercial cities grow up
   - *a*) Where large-scale collection and large-scale distribution are possible
   - *b*) Where mode of transportation is changed on important lines of communication, such as
     - (1) Good ocean and lake harbors
     - (2) Near mouths of navigable rivers
     - (3) At heads of river navigation
     - (4) Junctions of large rivers
     - (5) Great bends of rivers
     - (6) Falls and rapids
   - *c*) Where routes of trade focus, as at
     - (1) A river ferry
     - (2) A mountain pass
2. Manufacturing cities are usually the commercial cities, but distinctly manufacturing cities may be located
   - *a*) Near power resources
   - *b*) Near raw materials and markets

The conditions are seen to be conducive to the development of such centers in more places in the northeast quarter of the United States than in the West.

This is by no means an exhaustive list of the questions that arise in the discussion of this problem. Those here cited serve to show the type of procedure followed with any which it seems practicable to discuss.

Care is taken throughout the discussion to observe that in many regions of the West conditions make possible the support of dense populations.

As questions that are not practicable for immediate discussion are asked by the pupils, they are listed where all members of the class may have access to them. Often one member can answer the query of another. Sometimes later reading and discussion answer it. Sometimes the questions afford subjects for later class discussion or debate. Questions that excite strong differences of opinion in the class are sometimes debated by chosen teams. Such a question is, Which is the more influential factor in determining the location of manufacturing industries, power or nearness to raw materials?

Throughout the development of the problem the blackboard outline map of the United States is used almost daily. The pupils are definitely held responsible for the place geography on which each step of the problem is based. They are required to be able to show on an outline map of the United States, such as Goode's No. 9, or No. 10A, the approximate location of the regions of greatest production of each of the more important agricultural products, the more important railroad lines, the mountain ranges and plateau regions discussed, and the more important cities and rivers.

Oral reviews are used to fix, not only facts, but principles. Various geography "spell-down" games are played. Questions are asked that can be answered in a word or a short phrase: for example, Give an example of a city that has developed on a river at the head of ocean navigation; Name a factor important in establishing cotton manufacture in New England.

Population maps of the later census reports are used in reviewing and summarizing the topic. A given area is pointed out on the map and its population is noted in 1890, in 1900, and in 1910. The density of the population and its variation from time to time are accounted for in as many ways as possible. This serves the twofold purpose of showing the interrelation of the various factors and of discovering some factors not discussed in the general consideration. Moreover, it gives the pupil practice in the reorganization of material.

Consideration is next given to the problem of the needs of the future population of the United States. The population curve is graphed from 1800 to the present time. Probable future increase is discussed, assuming that atmospheric conditions and heat supply remain essentially unaltered. The question is asked, Upon what does their support depend? The four great classes of natural resources are seen to be land, water, minerals, and forests. How will increase in population affect per capita share of natural resources? What will determine ultimate population capacity?

How does the amount of the production and use of the more important foodstuffs, textiles, minerals, and forest products in the United States compare with their production and use in other countries? Maps and statistics on pages 403–10 of Brigham and McFarlane, the *Year Book of the Department of Agriculture*, the *Statesman's Year Book*, Census Bureau publications, and similar sources are used as reference material. The more important regions of production of a given commodity, wheat, for example, are listed and ranked with reference to total production, to per capita production, to amount exported, and to amount imported. Has the tendency in each region been toward increased or decreased production? increased or decreased exportation? importation? What is the meaning of this tendency?

This affords an excellent field for individual work. Each child is responsible for giving to the class the statistics for one or two products and for interpreting them. Graphs are made in order to present the statistics to the class in more readable form. Incidentally a quick review of some of the important phases of commercial geography is accomplished.

As our average per capita supply of natural resources decreases, what hope is there of depending upon these other regions of production? The limiting factors are examined in the different regions. The problem of supporting future population is seen to be a serious and world-wide one. What can the present generation do about it? A discussion of this matter shows that it is not our duty to cease to use the natural resources, but that it is our duty to use them efficiently, without waste, to increase them where possible, and even to create them in some instances.

How may our land resources be increased? Four general means are cited and are then discussed in more detail:

1. By reclaiming arid and swamp land
2. By minimizing soil erosion
3. By maintaining or increasing soil fertility
4. By increasing crop yields per acre

Outlines are included which show the main ideas around which the work is organized.

- Irrigation
  - Irrigation as carried on by the Mormons
  - Irrigation by private or co-operative means
  - Study of the flow of a typical western river in the arid section to show its erratic nature and wasted flood waters
  - The Reclamation Act of 1902
  - A study of one or two of the government projects (optional reading listed about the others)
  - The amount of land reclaimable by irrigation
  - The benefits derived from irrigation
  - The need for more people on the government irrigation projects now
  - The need for the reform of laws with regard to water rights
  - The need for research and educational work to help solve the special problems of the irrigation farmers
- Reclamation of swamp land
  - The amount and location of land that can be reclaimed
  - The means of reclaiming swamp land
  - The benefits of reclamation
- The limiting of soil erosion
  - Pictures showing kinds of direct and related damage done
  - Amount of damage done
  - Means of decreasing it
- Maintaining soil fertility
  - The essential elements: nitrogen, phosphorus, potassium
  - Causes of soil depletion
  - Ways in which soil fertility may be maintained and increased
- Means of increasing crop yields
  - Use of better agricultural methods and new systems
  - Use of better seed and of plant varieties better suited to the conditions of moisture, heat, etc.
  - Reduction of damage from insect pests, rodents, weeds, plant diseases, harmful bacteria, and toxic bodies
  - Use and disposal of the public domain

How shall the lands still owned by the public be best utilized? A discussion of the harmful abuse to which public grazing lands have been subjected leads to the conclusion that laws should control the use of resources in the public domain. To the end of securing the best use of such resources it is seen that mineral rights and surface rights should be separated. In order to know how to use lands rightly they should be classified according to their best practicable use. Finally reserves, sometimes temporary, sometimes permanent, should be made of areas valuable for timber, water supply, mineral deposits, unique natural beauties and wonders, etc.

In connection with the discussion of the preservation of natural beauties and wonders individual reports are made describing the more important of our national parks and monuments. Many pictures are shown. Suggested vacation trips are planned and described to other classes or to parents with the definite aim of helping the "See America First" campaign. The *National Parks Portfolio* issued by the Department of the Interior supplies much of the desired information. Railroad folders and current magazine articles are also good sources. In these talks the benefits of maintaining the parks and monuments are pointed out.

Forests.—After a survey of the location, kind, and amount of our original forests the story of their rapid exploitation is read. The question arises, How can our forests be maintained? It is clear that production must be made to equal consumption if the supply is to remain undiminished. It is also seen that the possibility of renewing the forests makes our neglect to maintain them unpardonable. Further discussion is organized under the topics:

Means of Increasing Production
Means of Decreasing Consumption

As in the case of soil erosion, pictures are used to show the disastrous effects of not caring for the forests and the good results of scientific forestry.

Minerals.—As in the case of forests the subject is handled by discussing the topics:

Wastes Now Permitted in Connection with Production and Consumption
Means of Preventing These Wastes

Water resources.—First is stressed the interrelation of problems of navigation, flood control, use of water for city water supply, sewage, water power, fish culture, etc. Evidently some of these interests are antagonistic to others. What should be done to get the *best* use of our water resources? It is seen that all interests should be considered before decisions are made, and the decisions should rest in the hands of experts. Relations of streams to one another should also be considered in their improvement. With these general qualifications in mind, discussion turns to:

The Wastes Now Permitted in the Use or Non-use of Water
The Remedies Now Practicable

Human conservation.—There remains to be emphasized the fact that the *people* of the country are responsible for the use or misuse of our national resources. The extent to which population can be maintained in the future depends partly upon the extent to which the present generation wastes these resources. Since the human factor is so important, it follows as a corollary that the education of humanity to the point of practicing the most efficient use of human powers without waste is one of the highest types of conservation.

References on conservation.—

C. R. Van Hise, *The Conservation of Natural Resources of the United States*

Salisbury, Barrows, and Tower, *Elements of Geography*, pp. 445–63; 266–69, 270–72, 557–61, 282, 289, 442, 286–87, 328, 403

Hornaday, *Our Vanishing Wild Life*

Fairchild, "New Plant Immigrants," *National Geographic Magazine*, October, 1911

Bibliography in Salisbury, Barrows, and Tower, *Elements of Geography*

Report of the National Conservation Commission, Sen. Doc. No. 676, Sixtieth Congress

Standards of attainment.—Where pupils have completed the Elementary School course in geography they should know how to use maps and books to gain geographic knowledge. The *essentials* of place geography they should have gained *permanently*. They should have grasped in its simplest form the idea of the geographic forces underlying the social, economic, and political conditions of which they have learned. They should know the more important facts concerning the resources of their own and other nations and should have an elementary knowledge of how these resources can be most wisely handled in order to serve humanity in the best possible way. They should have developed through such comprehension an appreciation of fellow-lands and fellow-peoples. They should have a glimpse of the vastness of the geographic field and should be aware of the importance of having a knowledge of geographic principles in interpreting present-day affairs.

Time requirement.—

80 lessons, 1 hour each
    40 lessons, geography of the United States
    40 lessons, conservation problems
    ½ of each hour, recitation
    ½ of each hour, supervised study